DOCUMENT RESUME

ED 090 349 UD 014 170

TITLE	Problems of the Upward Bound Program in Preparing Disadvantaged Students for a Postsecondary Education. Report to the Congress.
INSTITUTION	Comptroller General of the U.S., Washington, D.C.
PUB DATE	7 Mar 74
NOTE	63p.
AVAILABLE FROM	General Accounting Office, Room 6417, 441 G Street, N.W., Washington, D.C. 20548 (B-164031(1); $1.00)
EDRS PRICE	MF-$0.75 HC-$3.15 PLUS POSTAGE
DESCRIPTORS	College Admission; College Bound Students; *College Preparation; *Compensatory Education Programs; Cultural Enrichment; Curriculum Development; *Disadvantaged Youth; Higher Education; High School Graduates; Low Income; Post High School Guidance; *Post Secondary Education; *Program Evaluation; Remedial Instruction; Tutoring
IDENTIFIERS	Upward Bound

ABSTRACT

The General Accounting Office (GAO) undertook this review to test the effectiveness of the Upward Bound program, which is administered by the Department of Health, Education, and Welfare's (HEW) Office of Education (OE). This program was designed to provide low income students who are potentially successful but inadequately trained, with skills and motivation necessary to succeed in education beyond high school. The program is supposed to correct these students' faulty academic preparation by providing remedial instruction, altered curriculums, tutoring, cultural exposure, and encouragement. From 1965 through fiscal year 1973, about 206 million dollars was obligated for grants to and contracts with institutions of higher education and other qualifying public and private organizations for planning, developing, or carrying out this program. GAO reviewed 15 projects in Arizona, California, Florida, Georgia, Massachusetts, Nevada, New Hampshire, Rhode Island, and Vermont that had obligated 12.1 million dollars through June 30, 1972. Although Upward Bound might be motivating students to enroll in college, OE does not know how effective the program has been in achieving its goals of equipping students with the academic skills and motivation necessary for success in college. Available data indicates that the program apparently has not achieved this goal. In terms of college retention and graduation, Upward Bound has been substantially less effective than indicated by earlier research studies and OE's annual evaluation report to the Congress. (Author/JM)

ED 0903349

REPORT TO THE CONGRESS

Problems Of The Upward Bound Program In Preparing Disadvantaged Students For A Postsecondary Education

B-164031 (1)

Office of Education Department of Health, Education, and Welfare

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

MARCH 7, 1974

UD 014170

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-164031(1)

To the Speaker of the House of Representatives
and the President of the Senate

This is our report on problems of the Upward Bound program in preparing disadvantaged students for a post-secondary education. This program is authorized by title IV of the Higher Education Act of 1965, as amended (20 U.S.C. 1068), and is administered by the Office of Education, Department of Health, Education, and Welfare.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

We are sending copies of this report to the Director, Office of Management and Budget, and to the Secretary of Health, Education, and Welfare.

Elmer B. Staats

Comptroller General
of the United States

Contents

		Page
DIGEST		1
CHAPTER		
1	INTRODUCTION	5
	Administration and operation of the program	5
	Funding	7
	Program participation	8
2	UPWARD BOUND PROGRAM RESULTS	10
	Goals established	10
	Previous evaluations of the extent to which goals have been achieved	11
	Our evaluation of the extent to which goals have been achieved	13
	College enrollment, retention, and graduation data	13
	Academic skills and motivation	16
3	FACTORS AFFECTING PROGRAM SUCCESS	20
	Need to develop specific, measurable objectives	20
	Need to diagnose students' educational needs and design appropriate curriculums	21
	Educational needs not determined	21
	Curriculums not designed to meet students' educational needs	23
	Need to improve the management information system	24
	Need to improve monitoring of the program	26
	Need to limit participation to target group	27

CHAPTER		Page
	Students selected not academic risks	28
	Students' family incomes exceed guidelines	29
4	CONCLUSIONS AND RECOMMENDATIONS	31
	Agency comments	32
5	SCOPE OF REVIEW	34
APPENDIX		
I	GAO analysis of the association between program exposure and college enrollment and college retention	35
II	Letter dated November 28, 1973, from the Assistant Secretary, Comptroller, Department of Health, Education, and Welfare, to the General Accounting Office	52
III	Principal officials of the Department of Health, Education, and Welfare responsible for the activities discussed in this report	59

ABBREVIATIONS

GAO	General Accounting Office
HEW	Department of Health, Education, and Welfare
OE	Office of Education
OEO	Office of Economic Opportunity

COMPTROLLER GENERAL'S REPORT TO THE CONGRESS

PROBLEMS OF THE UPWARD BOUND PROGRAM IN PREPARING DISADVANTAGED STUDENTS FOR A POSTSECONDARY EDUCATION

Office of Education
Department of Health, Education, and Welfare
B-164031(1)

D I G E S T

WHY THE REVIEW WAS MADE

GAO undertook this review to test the effectiveness of the Upward Bound program, which is administered by the Department of Health, Education, and Welfare's (HEW's) Office of Education (OE). This program was designed to provide low income students, who are potentially successful but inadequately trained, with skills and motivation necessary to succeed in education beyond high school.

The program is supposed to correct these students' faulty academic preparation by providing remedial instruction, altered curriculums, tutoring, cultural exposure, and encouragement.

From 1965 through fiscal year 1973, about $206 million was obligated for grants to and contracts with institutions of higher education and other qualifying public and private organizations for planning, developing, or carrying out this program.

GAO reviewed 15 projects in Arizona, California, Florida, Georgia, Massachusetts, Nevada, New Hampshire, Rhode Island, and Vermont that had obligated $12.1 million through June 30, 1973.

FINDINGS AND CONCLUSIONS

Although Upward Bound might be motivating students to enroll in college, OE does not know how effective the program has been in achieving its goal of equipping students with the academic skills and motivation necessary for success in college. Available data indicates that the program apparently has not achieved this goal.

In terms of college retention and graduation, Upward Bound has been substantially less effective than indicated by earlier research studies and OE's annual evaluation report to the Congress. (See p. 10.)

In addition, OE's reported college enrollment and retention rates were overstated by 10 percent and 30 percent, respectively. (See pp. 14 and 15.)

Developing specific measurable objectives

Contrary to HEW guidelines, OE did not develop specific, measurable objectives for improving academic skills and increasing motivation. Also, objectives stated in project applications were generally vague and were not expressed in measurable

Tear Sheet. Upon removal, the report cover date should be noted hereon.

terms by type and degree of changes expected in student academic performance and attitude toward school. (See p. 20.)

Objectives should be stated in specific, measurable terms to provide OE with standards for measuring program effectiveness and with means of identifying potential problems.

Assessing educational needs and curriculum design

Project officials usually identified students' educational needs by reviewing school records and talking with teachers and counselors; they did not document their findings or identify the variety, incidence, or severity of students' learning problems. (See p. 22.)

Further, Upward Bound curriculums were not designed to correct students' educational weaknesses most likely to adversely affect their success in college.

Instead, students were assigned to certain classes regardless of whether they had difficulty in mastering those class subjects. (See p. 23.)

If the program is to be effective in equipping underachievers with skills and motivation to succeed in college, it would appear essential that the project use formal achievement and diagnostic testing programs to assess each student's needs before developing a curriculum based on his needs.

Management information system

OE's management information system did not:

--Provide accurate and prompt data on students' college enrollment, retention, and graduation.

--Accumulate data to determine the program's effectiveness in equipping students with the skills and motivation needed to succeed in postsecondary education. (See pp. 10, 13, 16, and 25.)

--Provide followup data on college enrollees to determine their academic performance, problems, and reasons for dropping out.

This data would have helped to determine program effectiveness and to identify factors which adversely affect students' college performance that OE could have perhaps corrected by altering the program's strategy or by using resources of its other programs. (See p. 27.)

Monitoring the program

OE's monitoring of Upward Bound was not geared to determining effectiveness of individual projects but consisted primarily of discussions with project officials; supporting files and records were usually not inspected. (See p. 27.)

Eligibility of students

GAO's review of the records of over 1,000 students showed that 22 percent were not underachievers and therefore may not have needed the program; also, 15 percent did not meet the family income criteria. (See p. 28.)

RECOMMENDATIONS OR SUGGESTIONS

GAO recommends that the Secretary of HEW require OE to:

--Establish clear, measurable objectives for the Upward Bound program and periodic milestones to measure the program's effectiveness in accomplishing objectives as required by HEW's Operational Planning System. (See p. 31.)

--Require projects to (1) document comprehensive need assessments on all students, including motivation levels, (2) design a curriculum to meet identified needs, and (3) periodically measure progress made in meeting these needs.

--Improve the management information system so program managers are provided with the data needed to develop, plan, and evaluate the program. (See p. 31.)

--Strengthen the monitoring program to insure that all projects operate in accordance with national intent. (See p. 31.)

--Require regional offices to insure that projects select students in accordance with guidelines and document the basis used. (See p. 32.)

AGENCY ACTIONS AND UNRESOLVED ISSUES

HEW generally agreed with GAO recommendations requiring projects to perform comprehensive needs assessment on all students and to periodically measure progress made in meeting these needs. HEW outlined actions to implement these recommendations. (See p. 32.)

MATTERS FOR CONSIDERATION BY THE CONGRESS

Congressional committees have expressed interest in programs to assist disadvantaged students in obtaining a postsecondary education. This report should be useful to those committees having oversight responsibilities for this program.

CHAPTER 1

INTRODUCTION

Upward Bound is a precollege preparatory program designed to generate the academic skills and motivation needed for success in education beyond high school. The target group to be served are those low-income youths who have potential for success in a 2- or 4-year college but who, without the program, would not have considered college enrollment, nor would have been likely to have gained admission to or successfully completed college because of inadequate high school preparation and/or underachievement.

Under authority of the Economic Opportunity Act of 1964, as amended (42 U.S.C. 2809), the Office of Economic Opportunity (OEO) funded 17 Upward Bound projects as a pilot program in the summer of 1965. In June 1966 the Upward Bound program began nationwide; over 200 colleges, universities, and residential secondary schools participated. On July 1, 1969, OEO's responsibility for Upward Bound was transferred to the Office of Education (OE), Department of Health, Education, and Welfare (HEW), and is currently authorized under section 408 of the Higher Education Act of 1965, as amended (20 U.S.C. 1068).

ADMINISTRATION AND OPERATION OF THE PROGRAM

OE headquarters is responsible for administering Upward Bound and for developing policies for program operation, funding, and evaluation. The headquarters was also responsible for administering individual projects until this function was delegated to HEW's 10 regional offices on January 1, 1972.

The regional offices are responsible for reviewing and approving project proposals, providing technical assistance to institutions operating projects, and evaluating the effectiveness of individual projects.

Accredited colleges, universities, and--in exceptional cases--secondary schools submit project proposals outlining their plans to correct faulty academic preparation and the lack of motivation of Upward Bound students by remedial

instruction, altered curriculums, tutoring, cultural exposure, and encouragement so that the students can succeed in higher education.

Project proposals are evaluated, approved, and funded annually. The grant awards are supposed to be competitive; however, proposals from existing projects generally receive funding priority over proposals for new projects. Grants may be discontinued if projects fail to follow program guidelines or to cooperate with other projects for disadvantaged students in their geographic areas.

Although the program is designed to help students who have completed the 10th and 11th grades, OE considers proposals to help students who have completed only the 8th and 9th grades when dropout rates are severe. OE guidelines discourage recruiting of students who have graduated from high school because they would be enrolled in the program for only one summer which would not allow adequate time for the project to provide the services and assistance needed to prepare them for postsecondary education.

A typical Upward Bound project includes a summer and an academic year component. The summer component is a 6- to 8-week residential program on a college, university, or secondary school campus, where the students are provided academic and cultural enrichment classes, tutoring sessions, and academic and personal counseling.

The primary purpose of the academic year component is to maintain the gains made during the intensive summer session. During this period students live at home and attend their area high schools. Project personnel maintain contact with the participants through Saturday classes or tutorial/counseling sessions and periodic cultural enrichment activities.

In addition to receiving educational services, Upward Bound participants receive a stipend of not more than $30 a month and certain health care services.

Upward Bound project directors are responsible for planning, implementing, and operating their projects. They determine project content and appropriate costs. OE guidelines require that project directors be on the faculty of

the institution where the project is being conducted. In addition, they are to have demonstrated sensitivity to the type of students participating in Upward Bound and, whenever possible, to have had experience in working with disadvantaged students. OE further requires that project directors be employed full time during the summer and the academic year components for the entire grant period.

A project's teaching staff must include both college and secondary school faculty. Teachers are to be selected on the basis of their experience with, and understanding of, the type of students in Upward Bound.

FUNDING

Federal funds totaling about $206.1 million were obligated for the program from its start in 1965 through June 30, 1973, as follows:

Program year	Number of projects	Annual enrollment	Federal funds obligated
1965-66	[a]25	3,261	$ 3,225,000
1966-67	218	20,333	25,000,000
1967-68	249	23,507	28,000,000
1968-69	285	26,639	30,000,000
1969-70	300	25,743	30,723,000
1970-71	292	27,346	29,600,000
1971-72	302	26,426	30,000,000
1972-73	316	[b]24,786	[b]29,599,000
Total			$206,147,000

[a]Of the 17 projects funded in the summer of 1965, 8 were funded as separate projects during the following academic year.

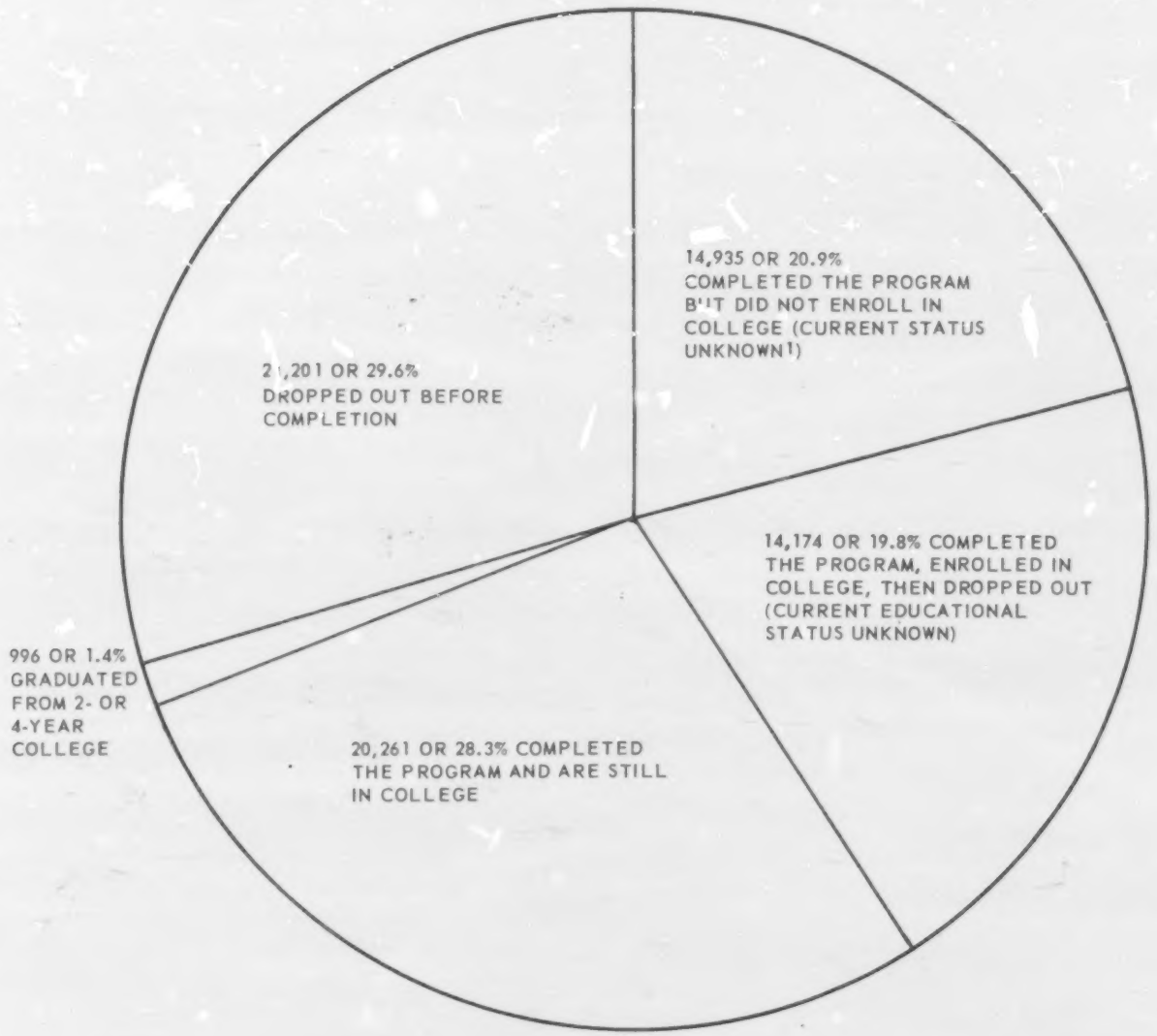
[b]Estimates based on interim reports.

Federal funds totaling about $12.1 million were obligated as of June 30, 1973, for the 15 projects we reviewed.

PROGRAM PARTICIPATION

OE reported that, as of January 17, 1973, 90,805 students had participated in the Upward Bound program and 19,238, or about 21 percent, were still enrolled. The reported educational status of the remaining 71,567 former participants is shown below.

EDUCATIONAL STATUS OF FORMER UPWARD BOUND STUDENTS REPORTED BY OE AS OF JANUARY 1973


14,935 OR 20.9% COMPLETED THE PROGRAM BUT DID NOT ENROLL IN COLLEGE (CURRENT STATUS UNKNOWN[1])
21,201 OR 29.6% DROPPED OUT BEFORE COMPLETION
14,174 OR 19.8% COMPLETED THE PROGRAM, ENROLLED IN COLLEGE, THEN DROPPED OUT (CURRENT EDUCATIONAL STATUS UNKNOWN)
996 OR 1.4% GRADUATED FROM 2- OR 4-YEAR COLLEGE
20,261 OR 28.3% COMPLETED THE PROGRAM AND ARE STILL IN COLLEGE

[1] OE records show that 3,069 of these Upward Bound graduates planned to enroll in other postsecondary programs; however ,OE does not follow up on any postsecondary activities except college.

CHAPTER 2

UPWARD BOUND PROGRAM RESULTS

Although Upward Bound might be motivating students to enroll in college, OE does not know, nor is there sufficient data available in the Upward Bound management information system to determine how effective the program has been in achieving its stated goal of equipping students with the academic skills and motivation necessary for success in college. Limited available data indicates that the program apparently has not achieved this goal.

In terms of college retention and graduation, Upward Bound has been substantially less effective than indicated by earlier research studies and OE's annual evaluation report to the Congress.

GOALS ESTABLISHED

The goal of Upward Bound, as set forth in the authorizing legislation and the program manual, is to generate the academic skills and motivation necessary for success in education beyond high school for "academic risk" students from low-income backgrounds who have academic potential. OE guidelines state that the Upward Bound student is characterized as an "academic risk" for college education because his lack of educational preparation and/or underachievement in high school is such that he would not have considered enrollment, nor would he have been likely to have gained admission to, and successfully pursued, an academic career at a 2- or 4-year college without the benefits of the program.

To measure the extent to which the program goal has been achieved, OE uses data in its management information system on the college enrollment, retention, and graduation of former Upward Bound students. The system, however, does not contain any data on the academic skills and motivation levels of students when they enter and leave the program.

OE noted in its fiscal year 1973 budget justification to the Congress that about 40 percent of the high school graduates from low-income families enroll in college on their own initiative, compared with about 60 percent for all

high school graduates. OE concluded that Upward Bound must concentrate on enrolling the additional 20 percent from low-income families. OE did not indicate, however, what percentage of Upward Bound college enrollees were expected to graduate.

PREVIOUS EVALUATIONS OF THE EXTENT TO WHICH GOALS HAVE BEEN ACHIEVED

In its fiscal year 1971 Annual Evaluation Report on Education Programs, dated January 1972, OE reported to the Congress that 66.8 percent of the Upward Bound graduates from 1966 through 1970 had enrolled in college compared with national averages of 60 percent of all high school graduates and 40 percent for all low-income high school graduates. OE also reported that a February 1970 evaluation report by Greenleigh Associates, Inc., a private consulting firm, showed that:

--Upward Bound students generally represented the academically underachieving and economically disadvantaged youth in America.

--The Upward Bound program was an effective drop out prevention program as well as a channel to college.

--College retention rates of Upward Bound graduates were equal to or greater than the national average.

OE told us that, although there had been a number of studies of Upward Bound, the Greenleigh study was the only comprehensive evaluation of the program's effectiveness. This study was made under contract with OEO at a cost of about $128,000, and covered the program from its start until its transfer to OE.

OEO stated that the evaluation was designed to assess how successful Upward Bound has been in achieving its major goal. The study was based on a synthesis of previous studies on selected aspects of Upward Bound; an analysis of data in the management information system on present and past enrollees; and interviews with project directors, teachers, tutors, and students at 22 regionally dispersed Upward Bound projects.

Greenleigh did not evaluate the extent to which Upward Bound equipped eligible students with the academic skills and motivation needed for college success. Greenleigh stated that earlier research studies indicated that Upward Bound did a good job in increasing students' motivation for college but had little or no impact on their academic skills.

Greenleigh concluded in its report, however, that the "results of slightly more than 4 years of Upward Bound are an incredible success story." According to the report, the College enrollment rate for Upward Bound graduates was about 70 percent for 1967-69, which was consistently higher than the national average for all high school graduates. The report also stated that, on the basis of available data for 1966-69, Upward Bound students enrolling in college had retention rates equal to or better than those of the national norm and projected that their graduation rates would also equal or better the national graduation rate of 50 percent. Greenleigh stated that the reasons for the high retention rates could only be conjectured because the Upward Bound management information system had insufficient data.

Although not specifically mentioned as a factor contributing to the high retention rates, Greenleigh reported that many of the Upward Bound participants were outside the target group and did not need the program to succeed in college. For example, the report pointed out that:

--Many of the participants, particularly in the early years of the program, may have been academically able youngsters who did not need the program rather than underachievers who would not have gone on to college without Upward Bound.

--Many of the students were already enrolled in a college preparation curriculum when they entered Upward Bound; from 1966 to 1969 only 10.2 percent of the participants changed from another curriculum type to a college prepatory one while enrolled in the program.

--High schools often recruited their best students for Upward Bound because they believed a poor showing would reflect on the school.

OE told us that it tentatively plans to have a contractor make a comprehensive evaluation of the Upward Bound program in fiscal year 1974 under the direct supervision of its Office of Planning, Budgeting, and Evaluation which is responsible for evaluating all OE programs.

OUR EVALUATION OF THE EXTENT TO WHICH GOALS HAVE BEEN ACHIEVED

Our evaluation of the program's effectiveness, as measured by the college enrollment and retention and graduation rates included (1) an analysis of data showing student progress over a period, which was available in the management information system, and (2) a determination of the accuracy of the reported educational status of former Upward Bound participants in the 15 projects.

A number of factors outside the program, such as family or personal problems and availability of financial assistance, also determine whether an Upward Bound student will succeed or fail in college. For this reason, college enrollment, retention and graduation statistics alone do not appear to be adequate criteria for measuring the effectiveness of Upward Bound in achieving its stated goal. We believe that a better measure of effectiveness is the extent to which Upward Bound has increased the participants' skills and motivation.

OE does not accumulate any baseline data on students' academic skills and motivation levels when they enter Upward Bound; nor does it know to what extent the program increased these factors, if at all. However, we were able to obtain a limited amount of academic test data at several projects and at some of the high schools Upward Bound students attended. We also obtained information on students' performances in college and conducted certain statistical tests of the relationship between students' time in the program and the extent to which they enrolled and succeeded in college as indicators of program effectiveness.

College enrollment, retention, and graduation data

According to OE's February 1973 college retention report, 68 percent of all Upward Bound graduates and

73 percent of graduates from the 15 projects had enrolled in college. In verifying OE's data for the 15 projects with college registrars, however, we found that 10 percent of the students who reportedly had enrolled in college had not.

The report also showed an average retention and graduation rate of 62 percent for all Upward Bound graduates who enrolled in college from 1965 through 1972. Such an average may, however, be misleading as a measure of program effectiveness because it includes the higher college retention rates of the more recent Upward Bound high school graduates--which range from 64 percent for the 1970 graduates up to 99 percent for the 1972 graduates. For example, in September 1970, an internal OE report showed that, of the more than 15,000 Upward Bound students who enrolled in college during 1966-69, 71 percent were still enrolled. Our analysis of OE retention data furnished to us in February 1973 for the same groups of students shows that only 39 percent were still enrolled or had graduated. A comparison of OE's reported retention rates for the same students at different times is shown below.

	Year students completed Upward Bound program				
	1966	1967	1968	1969	Total
Number of students enrolling in college	605	3,329	6,242	5,351	15,527
Percent of students still enrolled--Sept. 1970	53	51	67	91	71
Percent of students still enrolled or graduated--Feb. 1973	39	26	38	46	39

The differences in the retention rates are attributable to the fact that, in the earlier report, sufficient time had not elapsed to allow the retention rates to even out. Many of the students subsequently dropped out of college, causing the average retention rate for the 4-year period to decline to 39 percent--11 percent less than the national graduation rate for all college enrollees. Because of problems in updating the data in its management information system

(see p. 18), OE counts many students as still enrolled even though they have dropped out. OE's February 1973 statistics showed that about 9 of every 10 students included in the 39 percent retention rate for 1966-69 were reportedly still enrolled in college; therefore, it is reasonable to expect a further decline in the reported average retention rate as OE updates the data in its management information system.

Although OE stated in its annual evaluation report to the Congress in March 1973 that the Greenleigh study showed college retention rates of Upward Bound graduates as equal to or greater than the national average, this study covered the period before the program's transfer from OEO to OE. OE has not given the Congress more current year-by-year data which would have shown lower retention rates.

The following table illustrates on a year-by-year basis, the number of high school students who entered Upward Bound, completed the program, enrolled in college, and were currently enrolled in or graduated from college according to statistics furnished by OE in February 1973.

	Year entered Upward Bound program							
	1965	1966	1967	1968	1969	1970	1971	1972
New Upward Bound entrants	1,384	14,394	11,172	13,169	12,072	13,757	14,256	10,584
Currently enrolled in Upward Bound	-	-	-	-	-	1,769	7,603	9,866
Upward Bound graduates	1,374	12,710	7,967	9,331	8,027	7,540	3,152	265
Initially enrolled in college	971	8,988	5,359	6,747	5,678	5,288	2,211	189
Currently in college	118	2,381	2,191	3,866	4,381	4,937	2,179	188
Graduated from 2- or 4-year college	263	671	184	67	18	1	-	-

Note: These statistics furnished by OE were the most current data available in the Upward Bound management information system as of February 1973. The number of Upward Bound participants reported above as having graduated from 2- or 4-year colleges totals 1,204, whereas the correct total should be 996 as shown on page 9. OE officials explained that students who earned degrees from both 2- and 4-year colleges were counted twice by the computer when summarizing data on program participants by the year they entered Upward Bound.

In comparing our actual enrollment and retention data with the most recent data in OE's management information system for the 15 projects, we found that OE overstated by 30 percent the number of students enrolled in college or graduated.

Part of this difference is attributable to a timelag in updating the Upward Bound management information system. When we began our review in May 1972, the most current college registrar-verified data in the system was as of

September 1970. OE's spring 1972 survey of college registrars, which verified student enrollment and retention as of September 1971 was not in the system until October 1972. We verified with college registrars that many students had dropped out of college after September 1971 and that this data was not available to OE management.

OE officials told us that some of the differences could also be attributed to errors in the raw data and programing and key punching errors made in transferring the information to the computer. In addition, we learned that OE does not always receive an annual report on retention from college registrars. Unless notified to the contrary by the registrar, OE presumes that the students are still enrolled even though some may have dropped out.

OE's reported college enrollment and retention data is also misleading because some of the Upward Bound students at the projects we visited were outside the target group. We could not determine the extent of this problem at the 15 projects because files generally did not have baseline data on the academic skills and motivation levels of the students when they entered the program. However, our review of six projects disclosed that 22 percent of the former students who enrolled in or graduated from college may not have needed the program because, about the time they entered the program, they had B averages or better and relatively high scores on standardized academic achievement tests.

Academic skills and motivation

Because factors other than academic preparation and motivation can determine whether a student will succeed or fail in college, the extent to which Upward Bound increases the skills and motivation needed for success in education beyond high school is probably a better measure of program effectiveness than college admission, retention, and graduation rates. However, data on skills and motivation is generally not available in the management information system or at the project offices.

Only 1 of the 15 projects had both pretest and posttest data on the academic achievement skills of all their students. This data showed that the students were approximately 2 to 4 years below grade level when they entered the Upward

Bound program and were still about 2 to 4 years below grade level when they graduated from the program. Limited data at another project disclosed similar results. Also, some students who scored at or above grade level on the pretest did not maintain month-for-month growth in academic achievement equal to their progress in actual grade placement.

Because of the limited information available on the extent to which Upward Bound increased academic skills, we obtained information on academic performance in college as a proxy measure of Upward Bound's effectiveness in this area. The information college registrars provided showed that a high percentage of dropouts had low grades and that some of those remaining in college appeared to be having academic problems.

Information on the college performance of 792 former Upward Bound students at the 15 projects who dropped out of college showed that 508, or about 64 percent, had been on probation or had grade point averages below 2.0 (C averages). Of these, 168, or about 33 percent, had been academically suspended. Also, 378, or about 74 percent had left college with less than a 2.0 grade point average before completing 1 year's credit. Available performance data on 561 or 623 students still attending college at June 1972 showed that 141, or about 25 percent, were on probation or had less than 2.0 grade point averages.

Our statistical tests of the relationship between the students' time in the program and the extent to which they enrolled and succeeded in college indicated that the program had increased the motivation of students to enroll but had not adequately prepared their academic skills to succeed in college. We used college enrollment data as a proxy measure of motivation and college retention and graduation data as a proxy measure of academic preparedness.

We hypothesized that students with more exposure to the program--measured in months of participation--would be more likely to enroll in and succeed in college.

The results from our statistical tests indicate that the 15 projects have succeeded significantly in motivating participants to enroll in college. However, we found the association between exposure to the program and college

retention to be insignificant; those with more exposure were not succeeding at significantly higher rates than those with less exposure. The tables below show in aggregate the data used in our statistical tests for July 1966 to June 1972.

Association Between
Program Exposure and College Enrollment

Months in program	Did student enroll in college? Yes	No	Total	Yes as a percent of total
1 to 10	198	555	753	26.3
11 to 20	849	713	1,562	54.4
Over 20	745	419	1,164	64.0
Total	1,792	1,687	3,479	51.5

Association Between Program Exposure
and College Retention and Graduation

Months in program	Is student still enrolled or graduated? Yes	No	Total	Yes as a percent of total
1 to 10	91	95	186	48.9
11 to 20	414	386	800	51.8
Over 20	366	350	716	51.1
Total	871	831	[a]1,702	51.2

[a]The difference between this figure and the total number of students shown above as having enrolled in college is due to incomplete responses from college registrars.

Viewing the 14[1] projects separately, our analyses showed a positive and significant association between program exposure and college enrollment for 12 projects--11 highly significant associations and 1 significant association. The relationship for the 13th and 14th projects was insignificant.

[1]We did not separately analyze the 15th project because we considered the number of participants insufficient for a meaningful test.

Our analyses showed a positive and highly significant association between program exposure and college retention for only one project. The relationship for 11[1] projects was insignificant. (See app. I.)

---

[1] We did not separately analyze 3 projects because we either considered the number of participants insufficient for a meaningful test or the distribution of amounts of time in the program did not allow a meaningful test.

CHAPTER 3

FACTORS AFFECTING PROGRAM SUCCESS

Some factors which have contributed to the limited effectiveness of Upward Bound are:

--OE has not established clear, measurable objectives to be accomplished by Upward Bound within a specific time, contrary to HEW's requirements.

--OE does not require projects to (1) identify students' educational needs and motivation levels, (2) base curriculums on those identified needs, or (3) measure the progress in overcoming students' weaknesses.

--OE's management information system does not provide program officials with accurate and prompt data on program results.

--OE does not have an effective monitoring system for determining the success of individual projects in accomplishing their goals.

--OE has no assurance that the program is serving the intended target group.

NEED TO DEVELOP SPECIFIC, MEASURABLE OBJECTIVES

In 1969, HEW established an Operational Planning System to help management make internal decisions on resource allocations on the basis of the end results expected from a given amount of resources. The system handbook requires HEW activities to develop clear, measurable objectives indicating what each program intends to accomplish in terms of output or impact, and to set milestones to measure effectiveness in achieving the objectives. The handbook states that objectives which indicate only the services to be provided or resources to be committed are unacceptable.

The Upward Bound objectives established by OE and the three regional offices visited, however, did not include a statement of the expected end results. Instead, the

objectives were stated in terms of the resources to be committed; the number of projects to be funded; the total number of students to participate in the program; the number of Spanish surnamed and American Indian students to be served; and certain processes to be stressed in the curriculum, such as drug education, reading skills, and career education. The only reference to the impact or end results of the program was the broad statement of "equalizing opportunities for postsecondary education for low-income students."

Also, the three regional offices did not require the projects to establish clear, measurable objectives. Objectives in the project applications were generally vague and were not expressed in measurable terms indicating the types and degree of changes expected in the academic skills and motivation of students. Although one project had developed these types of objectives and a plan to achieve them, it did not implement the plan.

We discussed with OE officials the need to develop measurable objectives which clearly state the expected end results of the program in terms of student performance. These officials agreed that such objectives were needed and stated that OE was attempting to comply with the Operational Planning System but had not set a target date for developing these objectives.

NEED TO DIAGNOSE STUDENTS' EDUCATIONAL NEEDS AND DESIGN APPROPRIATE CURRICULUMS

OE has not required Upward Bound projects to make a comprehensive assessment of students' educational needs or to implement any type of formal academic achievement and diagnostic testing program. Such tests appear to be an essential part of the educational needs assessment and curriculum development processes if Upward Bound is to effectively equip underachievers with the skills and motivation they need to succeed in college.

Educational needs not determined

Current educational literature suggests that, to effectively correct underachievers' academic weaknesses, the nature and extent of their deficiencies must first be determined through a process commonly referred to as educational needs assessment. Standardized academic achievement and

diagnostic pretests and posttests help to assess students' educational needs and to evaluate their progress. The tests help to minimize the likelihood of misplacing an individual or not giving him essential educational services by

--identifying students likely to have trouble in school,

--isolating specific academic deficiencies or other difficulties, such as perceptive and motor disabilities, language disabilities, and emotional problems,

--assisting project officials in developing a prescriptive instructional program based on individual needs,

--identifying students who should be referred for medical or psychiatric attention, and

--evaluating progress and identifying future educational needs.

Officials at the 15 projects stated that they usually determined whether students were underachievers by reviewing school records and talking to teachers and counselors. However, they did not document their findings or conduct detailed educational needs assessments to determine the variety, incidence, or severity of students' learning problems.

None of the projects visited had a formal academic achievement and/or diagnostic testing program to identify students' academic weaknesses and to measure their progress in overcoming weaknesses. Officials at five projects told us teachers tested students after they were assigned to a class to determine the level of instruction needed. Another project gave standardized academic achievement pretests and posttests but did not use the results for developing it's curriculum development or evaluating the project. At this project students were assigned to academic classes alphabetically, even though more objective data on student needs was available.

OE has proposed amendments to the Code of Federal Regulations which would require project officials to make and clearly document a diagnostic evaluation of a student's educational needs upon entering the program and a prognostic evaluation of achievement upon completing it. Upward Bound

officials were reluctant, however, to require the projects to implement any type of formal testing program using standardized academic achievement and diagnostic tests. They said such tests were biased and that project teachers were capable of determining students' educational needs.

Although we recognize that opinions differ on the value of standardized achievement tests as a measure of educational gain, these tests were predominantly used to evaluate the effectiveness of Federal- and State-sponsored experimental education programs. For example, standardized achievement tests are used to measure the academic gains made by disadvantaged children participating in OE-funded elementary and secondary education programs.

We believe that, until more acceptable instruments are developed, these tests would be useful in assessing the needs and measuring the academic progress of Upward Bound students.

Curriculums not designed to meet students' educational needs

The Upward Bound curriculums at 14 of the 15 projects visited were not designed to overcome students' specific academic weaknesses which were likely to have an adverse effect on their success in college. Motivating the students toward college and personal success and developing their self-images seemed to be stressed more than correcting faulty academic preparation. As a result, many of the students enrolled in college had severe academic problems.

During the summer component, students generally took two to four required classes, such as English, mathematics, and reading, and were offered electives in such subjects as guitar and drum playing, modern dance, drama, motion picture production, and ceramics, which were offered mainly to motivate students. High school graduates were also provided regular college subjects or prerequisites for college courses, such as preparatory English.

All 15 projects assigned students to certain classes regardless of whether they had difficulty in mastering those class subjects. In addition, 10 projects provided classes, which were also available at the local high school, to help students gain high school credit and/or to complete prerequisites for admission to college. Only 2 of the 15 projects assigned students to classes because of documented

weaknesses, and they had not done this on a continuing basis.

The academic year component consisted mainly of bi-weekly or semimonthly counseling and tutoring as the students thought necessary. Some projects also had structured classes which were held weekly to monthly.

Generally, attendance was a problem. Students attended the sessions only when they thought necessary and apparently their progress in school was not checked to determine the need for additional tutoring. Some tutors told us they functioned primarily as personal counselors. Tutoring and counseling sessions were rarely documented.

Project officials at eight institutions said their curriculums were not remedial in nature; however, students were given individual attention and tutoring that was not available in most high schools. They commented that all students were assigned to the basic classes because underachievers generally needed help in English, mathematics, and reading. Also, OE and project officials believed that motivating the students was as beneficial for college success as was remedying academic weaknesses. Although we do not discount the importance of motivation, we believe that poor academic performance of Upward Bound students in college, as discussed in chapter 2, demonstrates the need for more emphasis on improving academic skills.

NEED TO IMPROVE THE MANAGEMENT INFORMATION SYSTEM

OEO established the Upward Bound management information system before the program's transfer to OE. As part of the system a contractor gathers each project's data on current and former students. The contractor processes the data through HEW's computer and prepares reports for OE and project officials. The basic data available in the information system is described below.

Current enrollees--The project staff must report each new enrollee's date of birth, age, race, sex, family income, grade level, grade point average, and high school academic program.

Former enrollees--The project staffs must report, for each student who left the project, his reason for leaving, grade level, grade point average, current educational status, postsecondary course of study, and employment status.

Retention survey--The contractor verifies, through an annual survey of college registrars, the current educational status of all former students previously reported by the project or having enrolled in college. The contractor verifies this data.

Project profile report--The contractor compiles information for all projects, including participants, current and former students, their reported educational status, grade point average, sex, poverty income selection criteria, and reasons for leaving. The project profile report summarizes the above characteristics on all students.

According to the Upward Bound information system manual, the system is supposed to provide OE and its regional offices with data for decisionmaking, program management, analysis and evaluation, and funding purposes. It is also supposed to provide project officials with data for planning and evaluating their individual programs.

The system, however, is not designed to accumulate baseline data on the academic skills and motivation levels of students or their progress in overcoming identified weaknesses. Such information would seem essential for determining the effectiveness of the program in achieving its objectives. Although the system includes provisions for gathering data on students' grade point averages when they enter and leave the program, grade point averages alone are not necessarily good indications of academic achievement levels because of the wide variances in academic standards among high schools.

In addition, the projects do not accumulate grade point averages on a continuing basis. For example, the projects had no grade point averages at program entry for over 43,000, or about 48 percent, of over 90,000 students who had enrolled in Upward Bound as of January 1973. They also had no grade point averages at program exit for 37,000, or about 52 percent, of the 71,000 former students.

As discussed previously the management information system's only measures of program effectiveness are statistics on students' college enrollment and retention and graduation, and much of this data is not accurate or prompt.

The system does not provide for accumulating data on students' college performance, such as grade point averages, units attempted and completed, and reasons for dropping out. This information would be useful in determining the effectiveness of the program in accomplishing its objective and in identifying factors which adversely affected students' performance that OE could perhaps correct by altering its program strategy or by using the resources of other OE programs.

The Greenleigh report on Upward Bound also noted a need to obtain college performance data, including the reasons for dropping out. The report suggested that such data be obtained and analyzed at least twice yearly for all college enrollees to aid in present and future program policy planning, research, and evaluation.

OE officials agree that college performance data on students should be obtained, including units attempted and completed, as well as their college grade point averages. Further, an effective followup system to gather information on the reasons why students dropped out of college would be beneficial. However, they believe the additional cost would be prohibitive. At least part of this information could be obtained during the annual college retention survey at little or no additional cost to the Government. Also, many social programs include provisions for obtaining such information for use by management.

OE contracted with a private consulting firm on June 30, 1972, to determine the type of information which should be collected in the future. OE officials said that they had not been fully satisfied with the firm's work to date and that they were still considering the need for additional data.

NEED TO IMPROVE MONITORING OF THE PROGRAM

In addition to using the data obtained from the management information system to monitor and evaluate projects, OE makes 2- to 3-day site visits. OE's regional staffs are required to conduct site visits at least once a year for each project. Consultants occasionally will make site visits when OE personnel cannot.

Available reports on the projects visited since the program began indicate that the visits were concerned primarily with program processes and adherence to guidelines. The reports contained little information on the effectiveness of the results the projects achieved. Regional office and project officials said the visits consisted primarily of discussions with project staffs and that supporting files and records usually were not reviewed. We believe periodic examinations of project records would have alerted OE officials to many of the problems discussed in this report.

An OE regional official advised us that not all projects were visited in fiscal year 1972 and that some projects had not been visited since June 1971, primarily because of staff limitations.

OE officials agree that they need a better monitoring system for determining the effectiveness of projects in accomplishing well defined objectives; however, they said they have been handicapped by staff reductions since the program was transferred from OEO. According to these officials, OEO had administered the program primarily through a contractor with an average personnel strength of 50 employees and through 6 OEO full-time professionals. As of June 1, 1973, under a decentralized management system covering HEW's 10 regional offices, OE had a total of only 32 employees, including 21 professionals, who were responsible for administering not only the Upward Bound program but also the Talent Search and Special Services for Disadvantaged Students programs.

NEED TO LIMIT PARTICIPATION TO TARGET GROUP

Properly determining students' eligibility to participate in Upward Bound is important to insure that limited program funds are used to help only those students that the Congress intended. Many of the students selected may not have needed the program since their grade point averages and standardized academic achievement test scores at program entry did not indicate they were underachievers. Also, some of the participants did not meet the program's income criteria.

Students selected not academic risks

Upward Bound guidelines state that students selected for the program should be identified by the project staff as academic risks, that is underachievers with potential. People who know the students, such as counselors and teachers, are to identify students' potential. However, OE does not define what it means by an underachiever in terms of educational deficiencies, such as high school grades or scores on achievement tests.

Only 1 of the 15 projects documented the factors it considered in identifying underachievers. Project directors generally stated that they reviewed students' high school records but usually gave more weight to the subjective evaluations by project staff, counselors, and teachers. At three projects, officials told us they relied primarily on their evaluations of students' applications and high school counselors' recommendations and did not interview the students.

Educational consultants and specialists told us that students who scored at or above the 40th percentile on standardized achievement tests probably could succeed in college without remedial help. Students who had both this percentile rating and above-average high school grades would be even less likely to need remedial help.

We obtained data on standardized achievement test scores and grade point averages for 1,045 students from project files and records of participating high schools. We found that 226 students, or 22 percent, had scored at or above the 40th percentile on standardized achievement tests and had at least B averages at or near the time they entered Upward Bound.

Although these students probably benefited from Upward Bound, they may have required only counseling and motivation. They appeared to be more suitable candidates for OE's less expensive Talent Search program which is designed to encourage low-income students with high potential and adequate performance to complete high school and enroll in postsecondary education. Talent Search costs about $24 a year for each student compared with about $1,140 for each Upward Bound student.

Students' family incomes exceed guidelines

Upward Bound guidelines state that at least 80 percent of the students must meet the poverty income guidelines established by the Bureau of the Census and that up to 20 percent in slightly higher income brackets (criteria A and B) can be selected at the discretion of project directors. Students are considered to have met the income eligibility test if:

--They live in federally supported low-income housing.

--Their family receives state or federally funded welfare.

--Their family income is seriously mismanaged so that little, if any, is available for the students. Written testimony is required from a reliable third party to support this contention and show that it is a significant hardship on the student.

OE's national office has recognized that a relatively high percentage of students selected for the projects do not meet the family income criteria. It noted that 28 percent of the program participants during 1971 did not meet criterion A and 13 percent exceeded criterion B by over $500. Because of apparent violations in all regions, OE sent a letter dated June 28, 1972, to all regional offices requesting that they insure that all projects in their regions correct the violation.

Our review of income data on 1,180 students at 12 projects showed that the reported family incomes for 178, or 15 percent, of the students exceeded both criteria A and B. Some of the reasons for noncomformance with the guidelines were the projects' acceptance, without verification, of income reported verbally by students; the use of net income instead of gross income; classification errors; and the rounding down of reported income by as much as $900. Some project directors did not enforce the income guidelines because, in their opinion, the criteria were too low.

OE stated that violations of the income guidelines has a significant impact on the program's assistance to the poor in view of the limited population served as compared with the

total number of eligible students. OE estimates that 360,000 low-income students are eligible for Upward Bound, but the program currently is serving about 25,000, or only 1 out of every 14 eligible students. Selecting students who do not meet the income guidelines reduces the target population's chances for receiving benefits.

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

Limited available data shows that, although Upward Bound apparently has motivated students to seek a college education, it does not appear to have been effective in achieving its goal of equipping students with the skills needed to succeed in college. Without the basic learning skills needed to cope with college, even the highly motivated student will have a difficult and possibly insurmountable task. Therefore, we think it is essential that OE emphasize the teaching of those specific academic skills individual students need to succeed in college. We recommend that the Secretary of HEW direct OE to:

--Establish clear, measurable objectives for the Upward Bound program and periodic milestones to measure the program's effectiveness in accomplishing the objectives as required by HEW's Operational Planning System. OE should also require that the projects establish similar objectives.

--Require projects to (1) perform and document comprehensive need assessments on all students, including their motivation levels, (2) design a curriculum to meet the identified needs, and (3) periodically measure the progress made in meeting these needs. The guidelines should also include additional guidance to assist the project in accomplishing these three requirements.

--Improve the management information system so program managers are provided with the data needed to develop, plan, and evaluate the program. The system should provide program managers the data needed to (1) assess students' specific educational needs, (2) identify their major problems, (3) devise specific strategy for overcoming these problems, (4) implement an education program responsive to students' needs, (5) measure progress toward meeting goals, and (6) assess the effectiveness of the program and each project.

--Strengthen the monitoring program to insure that all projects operate in accordance with program intent

and that the stated objectives of the projects are realistic and are being accomplished within the expected time.

--Require regional offices to insure that projects select students in accordance with the guidelines and document the basis used. OE should provide projects with guidelines defining an academic risk student in terms of such achievement measures as standardized achievement tests and grade point averages. As an additional control, OE should include an editing process in its computer which would automatically identify students who do not meet the academic risk and income criteria.

AGENCY COMMENTS

In a letter dated November 28, 1973 (see app. II), HEW agreed with our recommendations, with certain qualifications, and outlined the actions initiated and to be taken to correct the matters discussed in this report. The qualifications pertained to our recommendation that OE require projects to perform and document comprehensive needs assessment on all students, including their motivation levels, and to periodically measure the progress made in meeting these needs.

HEW noted that there are many ways in which student motivation can be ascertained, including the development of psychological profiles on students; however it did not believe developing such profiles was an activity in which it or the Upward Bound projects should be involved.

We are not recommending that psychological profiles be used for measuring student motivation. As HEW has indicated, there are many ways in which this can be accomplished. The point is that the impact of Upward Bound on motivating students should be measured; how it is measured is not of primary importance.

HEW also stated that comprehensive assessment and measurement of students' needs can be performed with a variety of instruments and techniques, including standardized tests; however, it did not support the policy of basing assessment and measurement solely on standardized tests, nor did it believe that every project should be required to use identical assessment and measurement techniques.

We are not recommending that HEW base the assessment and measurement of student needs solely on standardized tests, nor are we recommending that all projects be required to use identical assessment and measurement techniques. The instruments and techniques used to assess and measure a student's educational needs will depend, in part, on the nature and severity of his educational deficiencies.

Standardized tests do become important, however, in measuring (1) the academic progress of individual students and (2) the effectiveness of each project and the program as a whole in equipping students with the skills they need to succeed in college. Although it is not essential that all projects be required to use identical tests, some degree of consistency and uniformity would be of value to OE management as one of the factors to be considered in evaluating program effectiveness.

HEW stated that in April 1973 a procedure had been implemented in the Upward Bound information system to identify individuals reported over the income guidelines. According to HEW, only 4 percent of current Upward Bound students presently exceed income eligibility criteria. We did not verify the accuracy of the 4 percent rate, but as we pointed out, many projects were not conforming to OE's income guidelines. We believe, therefore, that this area of program administration warrants OE's continuous efforts to insure that only eligible students participate in the program.

CHAPTER 5

SCOPE OF REVIEW

We evaluated the effectiveness of the Upward Bound program in assisting qualified low-income students to obtain the skills and motivation necessary to succeed in education beyond high school. We also determined the extent to which students entered and stayed in college.

At OE headquarters in Washington, D.C., and at HEW regional offices in Atlanta, Boston, and San Francisco we interviewed OE officials and reviewed policies, regulations, practices, and procedures for administering the Upward Bound program. We also examined several consultants' reports on the program. At project offices we examined project proposals, records, and reports, and interviewed project officials, tutors, counselors, teachers, and administrators. The 15 projects reviewed were located in Arizona, California, Florida, Georgia, Massachusetts, Nevada, New Hampshire, Rhode Island, and Vermont.

GAO ANALYSIS OF THE ASSOCIATION BETWEEN PROGRAM EXPOSURE AND COLLEGE ENROLLMENT AND COLLEGE RETENTION

We used a statistical analysis technique to obtain data on the extent to which Upward Bound met its objectives. This analysis is intended to help support the conclusions reached rather than to serve as the basis for the conclusions.

SCOPE OF ANALYSIS

We analyzed the association between:

--Program exposure and the extent to which participants were motivated to enroll in college.

--Program exposure and academic preparedness for college.

We analyzed all 15 projects together, 14[1] of the 15 projects individually for motivation and 12[1] of the 15 projects individually for academic preparedness.

MEASURES USED

Because direct measures of the variables analyzed were lacking, we used the following proxy measures.

--Program exposure--number of months of participation. We selected the categories used in the analyses on the basis of length of participation frequency distributions for the projects reviewed.

--Motivation--extent to which participants enrolled in college.

--Academic preparedness--extent to which participants remained in or graduated from college.

---

[1]We did not analyze certain projects because we either considered the number of participants insufficient for a meaningful test or the distribution of amounts of time in the program did not allow a meaningful test.

APPENDIX I

BASIC ASSUMPTION

The basic assumption for the analysis was that increased exposure to Upward Bound should increase the motivation and academic preparedness of participants.

USE OF CHI-SQUARE TEST OF INDEPENDENCE

The purposes of the chi-square tests of independence were to establish whether an association (dependency relationship) existed between the variables we tested and to obtain an indication of the strength of identified associations.

For example, in the table below we can see that those with longer time in the program did proportionately better in terms of college enrollment than those with less time in the program.

Analysis of the Association Between Program Exposure and College Enrollment

Months in program	Did student enroll in college?		
	Yes	No	Total
1 to 10	5	42	47
11 to 20	31	59	90
Over 20	103	63	166
Total	139	164	303

But is the difference in proportions significant or is it merely the result of chance variations? How sure can we be that the difference is not a product of chance? We used the chi-square test of independence to answer these questions.

Using a chi-square statistic and a chi-square table, we determined the significance of the association between variables tested and a confidence level which represents the probability that the association was not a product of chance.

We interpreted the confidence levels obtained with the chi-square tests of independence using the following definitions.

Confidence that observed association is not a product of chance	Definition of association
95 percent or greater	Highly significant
90 to 94 percent	Significant
80 to 89 percent	Borderline significant
Less than 80 percent	Insignificant

The statistical details of our analyses follow.

Analysis of the Association Between Program Exposure and College Enrollment
All 15 projects

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	198	555	753
11 to 20	849	713	1,562
Over 20	745	419	1,164
Total	1,792	1,687	3,479

Significance of association: highly significant.

Degrees of freedom: 2
Chi-square value: 269.475
Confidence level: 0.99+

Analysis of the Association Between Program Exposure and College Retention
All 15 projects

Months in program	Is student still enrolled or graduated ? Yes	No	Total
1 to 10	91	95	186
11 to 20	414	386	800
Over 20	366	350	716
Total	871	831	1,702

APPENDIX I

Significance of association: insignificant.

Degrees of freedom: 2
Chi-square value: 0.483761
Confidence level: 0.20 to 0.30

Analysis of the Association Between Program Exposure and College Enrollment Institution A

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	72	79	151
11 to 20	94	53	147
Over 20	9	6	15
Total	175	138	313

Significance of association: highly significant.

Degree of freedom: 2
Chi-square value: 8.09926
Confidence level: 0.98 to 0.99

Analysis of the Association Between Program Exposure and College Retention Institution A

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 10	34	38	72
11 to 20	49	40	89
Over 20	2	6	8
Total	85	84	169

Significance of association: insignificant.

Degrees of freedom: 2
Chi-square value: 3.12653
Confidence level: 0.70 to 0.80

Analysis of the Association Between Program Exposure and College Enrollment Institution B

Months in program	Did student enroll in college? Yes	No	Total
1 to 20	29	19	48
Over 20	44	19	63
Total	73	38	111

Significance of association: insignificant.

Degrees of freedom: 1
Chi-square value: 0.696948
Confidence level: 0.50 to 0.70

Analysis of the Association Between Program Exposure and College Retention Institution B

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 20	17	12	29
Over 20	19	24	43
Total	36	36	72

Significance of association: insignificant.

Degrees of freedom: 1
Chi-square value: 0.923817
Confidence level: 0.50 to 0.70

APPENDIX I

Analysis of the Association Between
Program Exposure and College Enrollment
Institution C

Months in program	Did student enroll in college? Yes	No	Total
1 to 20	34	76	110
Over 20	23	25	48
Total	57	101	158

Significance of association: significant.

Degrees of freedom: 1
Chi-square value: 3.48654
Confidence level: 0.90 to 0.95

Analysis of the Association Between
Program Exposure and College Retention
Institution C

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 20	21	11	32
Over 20	17	5	22
Total	38	16	54

Significance of association: insignificant.

Degrees of freedom: 1
Chi-square value: 0.38163
Confidence level: 0.30 to 0.50

Analysis of the Association Between Program Exposure and College Enrollment Institution D

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	3	12	15
11 to 20	21	34	55
Over 20	16	20	36
Total	40	66	106

Significance of association: insignificant.

Degrees of freedom: 2
Chi-square value: 2.7024
Confidence level: 0.70 to 0.80

Analysis of the Association Between Program Exposure and College Retention Institution D

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 20	10	14	24
Over 20	9	7	16
Total	19	21	40

Significance of association: insignificant.

Degrees of freedom: 1
Chi-square value: 0.338346
Confidence level: 0.30 to 0.50

APPENDIX I

Analysis of the Association Between
Program Exposure and College Enrollment
Institution E

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	6	55	61
11 to 20	39	38	77
Over 20	86	72	158
Total	131	165	296

Significance of association: highly significant.

Degrees of freedom: 2
Chi-square value: 37.1995
Confidence level: 0.99+

Analysis of the Association Between
Program Exposure and College Retention
Institution E

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 20	32	13	45
Over 20	55	31	86
Total	87	44	131

Significance of association: insignificant.

Degrees of freedom: 1
Chi-square value: 0.395557
Confidence level: 0.30 to 0.50

Analysis of the Association Between Program Exposure and College Enrollment Institution F

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	6	14	20
Over 10	138	33	171
Total	144	47	191

Significance of association: highly significant.

Degrees of freedom: 1
Chi-square value: 22.1534
Confidence level: 0.99+

Analysis of the Association Between Program Exposure and College Retention Institution F

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 10			
11 to 20			
Over 20			
Total			

Note: No analysis was performed because the distribution of months in the program did not allow a meaningful test.

APPENDIX I

Analysis of the Association Between
Program Exposure and College Enrollment
Institution G

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	30	95	125
11 to 20	125	121	246
Over 20	174	78	252
Total	329	294	623

Significance of association: highly significant.

Degrees of freedom: 2
Chi-square value: 68.687
Confidence level: 0.99+

Analysis of the Association Between
Program Exposure and College Retention
Institution G

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 10	14	16	30
11 to 20	70	54	124
Over 20	96	77	173
Total	180	147	327

Significance of association: insignificant.

Degrees of freedom: 2
Chi-square value: 0.964098
Confidence level: 0.30 to 0.50

Analysis of the Association Between Program Exposure and College Enrollment Institution H

Months in program	Did student enroll in college? Yes	No	total
1 to 10	5	42	47
11 to 20	31	59	90
over 20	103	63	166
Total	139	164	303

Significance of association: highly significant.

Degrees of freedom: 2
Chi-square value: 45.7259
Confidence level: 0.99+

Analysis of the Association Between Program Exposure and College Retention Institution H

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 20	9	27	36
Over 20	64	36	100
Total	73	63	136

Significance of association: highly significant.

Degree of freedom: 1
Chi-square value: 14.6618
Confidence level: 0.99+

APPENDIX I

Analysis of the Association Between Program Exposure and College Enrollment Institution I

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	13	68	81
11 to 20	66	83	149
Over 20	153	53	206
Total	232	204	436

Significance of association: highly significant.

Degrees of freedom: 2
Chi-square value: 86.3871
Confidence level: 0.99+

Analysis of the Association Between Program Exposure and College Retention Institution I

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 10	7	6	13
11 to 20	23	42	65
Over 20	54	98	152
Total	80	150	230

Significance of association: insignificant.

Degrees of freedom: 2
Chi-square value: 1.78422
Confidence level: 0.50 to 0.70

Analysis of the Association Between Program Exposure and College Enrollment Institution J

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	3	19	22
11 to 20	7	9	16
Over 20	16	16	32
Total	26	44	70

Significance of association: highly significant.

Degrees of freedom: 2
Chi-square value: 7.77168
Confidence level: 0.95 to 0.98

Analysis of the Association Between Program Exposure and College Retention Institution J

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 10			
11 to 20			
over 20			
Total			

Note: No analysis was performed because the distribution of months in the program did not allow a meaningful test.

APPENDIX I

Analysis of the Association Between
Program Exposure and College Enrollment
Institution K

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	10	35	45
11 to 20	44	44	88
Over 20	34	14	48
Total	88	93	181

Significance of association: highly significant.

Degrees of freedom: 2
Chi-square value: 22.101
Confidence level: 0.99+

Analysis of the Association Between
Program Exposure and College Retention
Institution K

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 20	17	28	45
Over 20	13	15	28
Total	30	43	73

Significance of association: insignificant.

Degrees of freedom: 1
Chi-square value: 0.236069
Confidence level: 0.30 to 0.50

Analysis of the Association Between Program Exposure and College Enrollment Institution L

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	14	45	59
11 to 20	44	55	99
Over 20	55	36	91
Total	113	136	249

Significance of association: highly significant.

Degrees of freedom: 2
Chi-square value: 19.5194
Confidence level: 0.99+

Analysis of the Association Between Program Exposure and College Retention Institution L

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 20	18	32	50
Over 20	19	27	46
Total	37	59	96

Significance of association: insignificant.

Degrees of freedom: 1
Chi-square value: 0.104702
Confidence level: 0.50 to 0.70

APPENDIX I

Analysis of the Association Between
Program Exposure and College Enrollment
Institution M

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	24	51	75
11 to 20	30	21	51
Over 20	14	6	20
Total	68	78	146

Significance of association: highly significant.

Degrees of freedom: 2
Chi-square value: 13.8885
Confidence level: 0.99+

Analysis of the Association Between
Program Exposure and College Rentention
Institution M

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 10	13	10	23
11 to 20	15	14	29
Over 20	6	8	14
Total	34	32	66

Significance of association: insignificant.

Degrees of freedom: 2
Chi-square value: 0.651494
Confidence level: 0.20 to 0.30

Analysis of the Association Between Program Exposure and College Enrollment Institution N

Months in program	Did student enroll in college? Yes	No	Total
1 to 10	6	23	29
11 to 20	150	71	221
Over 20	15	4	19
Total	171	98	269

Significance of association: highly significant.

Degrees of freedom: 2
Chi-square value: 26.732
Confidence level: 0.99+

Analysis of the Association Between Program Exposure and College Retention Institution N

Months in program	Is student still enrolled or graduated? Yes	No	Total
1 to 20	49	77	126
Over 20	6	6	12
Total	55	83	138

Significance of association: insignificant.

Degrees of freedom: 1
Chi-square value: 0.195955
Confidence level: 0.30 to 0.50

APPENDIX II

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
WASHINGTON, D.C. 20201

OFFICE OF THE SECRETARY

NOV 2 8 1973

Mr. Morton E. Henig
Associate Director
Manpower and Welfare Division
General Accounting Office
Washington, D.C.

Dear Mr. Henig:

Enclosed is the Department's response to the General Accounting Office report on the effectiveness of the Upward Bound Program in preparing disadvantaged students for postsecondary education. If you should need further information relative to the contents of the response, please do not hesitate to let me know.

Sincerely yours,

John D. Young
Assistant Secretary, Comptroller

Enclosure

EFFECTIVENESS OF THE UPWARD BOUND PROGRAM
IN PREPARING DISADVANTAGED STUDENTS
FOR POSTSECONDARY EDUCATION

As indicated by our comments to GAO's recommendations, following, the Department concurs that a need exists to strengthen many aspects of the administration of the Upward Bound program. We believe that the report fairly discusses many but not all of the problems faced in serving low-income youths who have the potential for success in postsecondary education.

Recommendation #1

GAO Recommends:

Establish clear, measurable objectives for the Upward Bound program and periodic milestones to measure the effectiveness of the program in accomplishing the objectives as required by HEW's Operational Planning System. Also, develop guidelines requiring that the projects establish similar objectives.

Department Comments:

The Office of Education will prepare a policy statement designed to clarify the several purposes and objectives of the Upward Bound program. To the extent that these objectives can serve as measurable criteria of program effectiveness, the Office of Education will also develop a long range evaluation plan for assessing the program's effectiveness in meeting the clarified objectives. Once these steps have been taken, we will develop the recommended guidelines for projects.

Recommendation #2

GAO Recommends:

Develop guidelines requiring projects to (1) perform and document comprehensive need assessment on all students, including their motivation levels, (2) design a curriculum to meet the needs identified, and (3) periodically measure the progress made in meeting these needs. The guidelines should also include additional guidance to assist the projects in accomplishing these three requirements.

Department Comments:

As discussed with GAO representatives, the Department concurs with this recommendation with two qualifications:

1. There are many ways in which student motivation can be ascertained, including the development of psychological profiles on students. The Department does not believe that the development of such profiles is an activity in which it or the Upward Bound projects should be involved.

2. Comprehensive assessment of students' needs and the measurement of those needs can be performed with a variety of instruments and techniques, including standardized tests. The Department does not support the policy of basing assessment and measurement solely on standardized tests. It also does not believe that every project should be required to use identical assessment and measurement techniques. Most especially, it would not require every project to administer the same single or battery of tests to accomplish this objective.

The implementation of this recommendation involves problems of timing. Application forms and program manuals have been mailed to proposers for FY 74 funding. Little can be done to change requirements for the current grant cycle. However, the Office of Education will negotiate with prospective grantees to implement needs analysis and progress measurement and, to the extent possible, pre- and post-testing within projects will be encouraged. For the FY 75 funding cycle, the Office of Education will review Upward Bound regulations to determine the feasibility of requiring such measures as a part of future program requirements, under the current statue.

Recommendation #3

GAO Recommends:

Improve the Upward Bound management information system so program managers are provided with the data needed in developing, planning and evaluating the Upward Bound program. The system should provide program managers the data needed to (1) assess the specific educational needs of students, (2) identify the major problems that must be dealt with, (3) devise specific strategy for overcoming these problems, (4) implement an education program responsive to student's needs, (5) measure progress made toward meeting stated goals, and (6) assess the effectiveness of the program and each project.

Department Comments:

The Department agrees that the Upward Bound management information system needs improvement. In fact, preliminary steps have already been taken toward this goal, and toward improving the management information system of the other Trio programs [Talent Search and Special Services for Disadvantaged Students]. A contract has been let to determine the essential information needs for effective management of the three programs at all levels - project, regional and national. Once adequate data has been developed, the Office of Education will develop an Objective and Operating Plan for implementing (the intent of) this recommendation.

APPENDIX II

Recommendation #4

GAO Recommends:

Strengthen the monitoring program to ensure that all projects operate in accordance with national intent and that the stated objectives of the projects are realistic and are being accomplished within the expected time frame.

Department Comments:

Efforts have already been taken to strengthen the monitoring program in that the regions are beginning to implement a management by objective system for all Upward Bound, Talent Search and Special Services programs. This will include (1) analysis of the target population, (2) clearly stated project objectives, (3) comprehensive student needs assessment, (4) development of project work programs based upon individual student needs, (5) implementation plan for each objective, (6) self-evaluation of work programs, (7) periodic review of progress and fiscal reports.

The steps outlined above with the required documentation of student eligibility and need will be the foundation of more effective monitoring of the Upward Bound projects. Equally important are the "site visits," which are more than an inspection visit. OE program staff and field readers will be utilized to the greatest extent possible to insure that projects are actually fulfilling the program requirements, assist the projects in correcting deficiencies and providing advice and other forms of expertise toward improvement of program. Training programs will be conducted to improve the effectiveness of site visits.

Recommendation #5

GAO Recommends:

Develop guidelines requiring regional offices to take steps to ensure that projects select students in accordance with the selection guidelines and document the basis used.

Department Comments:

We concur that such guidelines are needed and intend to start gathering the data necessary for their development within a short time.

GAO Recommends:

Provide projects with guidelines defining an academic risk student in terms of achievement measures such as standardized achievement tests and grade point averages.

Department Comments:

While we agree with the need for a more precise definition of the term "academic risk," we would hesitate to limit its definition to "...terms of achievement measures such as standardized achievement tests and grade point averages." We feel these kinds of criteria wouldn't identify adequately the type of student that Upward Bound is intended to help. For some time, the Office of Education has been considering how to best define an academic risk student for the purposes of deciding who would benefit more from participation in the Upward Bound programs, with the preciseness needed for unfirom application nationwide. This matter will continue to receive much attention, particularly in discussions with experts in compensatory education until it is resolved.

GAO Recommends:

Include an editing process in its computer program which would automatically identify students who do not meet academic risk and income criteria, so regional officials can take more timely corrective action.

Department Comments:

We concur. With respect to academic risks, we will include appropriate checks when the criteria mentioned above has been developed and can be used as the basis for their development. With respect to income criteria, such steps have already been taken. In June 1972, the Upward Bound information system identified the problem of students not meeting income guidelines and the regional directors of higher education were directed to take corrective action. Additionally, in April 1973, the

APPENDIX II

Upward Bound information system implemented a procedure to identify individuals reported over income guidelines. As a result of these efforts, the number of students over poverty guidelines has decreased from 14% as reported in 1972 to where presently only 4% of current regular Upward Bound students exceed income eligibility criteria.

PRINCIPAL OFFICIALS OF THE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE RESPONSIBLE FOR ACTIVITIES DISCUSSED IN THIS REPORT

	Tenure of office	
	From	To
SECRETARY OF HEALTH, EDUCATION, AND WELFARE:		
Caspar W. Weinberger	Feb. 1973	Present
Frank C. Carlucci (acting)	Jan. 1973	Feb. 1973
Elliot L. Richardson	June 1970	Jan. 1973
Robert H. Finch	Jan. 1969	June 1970
ASSISTANT SECRETARY FOR EDUCATION:		
Charles B. Saunders, Jr. (acting)	Nov. 1973	Present
Sidney P. Marland, Jr.	Nov. 1972	Oct. 1973
COMMISSIONER OF EDUCATION:		
John R. Ottina	Aug. 1973	Present
John R. Ottina (acting)	Nov. 1972	Aug. 1973
Sidney P. Marland, Jr.	Dec. 1970	Oct. 1972
Terrel H. Bell (acting)	June 1970	Dec. 1970
James E. Allen, Jr.	May 1969	June 1970

Copies of this report are available at a cost of $1 from the U.S. General Accounting Office, Room 6417, 441 G Street, N.W., Washington, D.C. 20548. Orders should be accompanied by a check or money order. Please do not send cash.

When ordering a GAO report please use the B-Number, Date and Title, if available, to expedite filling your order.

Copies of GAO reports are provided without charge to Members of Congress, congressional committee staff members, Government officials, news media, college libraries, faculty members and students.